Findings on range livestock production factors

California agriculture includes a number of industry segments with a wide variety of products, marketing techniques, and organizational sophistication. To some extent the beef industry reflects this diversity. There are many operators who derive income from other sources and who may use their ranch more as a residence, which makes it less likely for them to leave the industry in light of poor economic conditions in the livestock industry. Entrance to the livestock industry is relatively easy compared to the capital requirements of other industries. New operators can rent their acreage and equipment.

Livestock production costs include livestock purchase, feed costs, lease or other range forage costs, and labor. In 1997, the most significant costs related to the purchase cost of animals (28 percent of total) and feed (18 percent of the total). These significant costs are reflected regionally as well. Commercially mixed formula feed purchases have increased 48 percent between 1992 and 1997 on beef cattle farms excluding feedlots within California. This production expense has had the most significant increase among all production expenses within California between 1992 and 1997.

In 1997, the North Interior region's livestock purchases on forest and rangeland farms (beef cattle except feedlots) (12 percent) were much lower than the statewide average. The North/Central San Joaquin Valley (35 percent) and South Coast/Mojave/Colorado Desert (39 percent) livestock purchases were well above the Statewide average. The South San Joaquin region had significantly higher feed costs (29 percent) than the State average on beef cattle farms excluding feedlots (National Agricultural Statistics Service, 2001a).

Land and forage input

Forest and rangelands provide forage. Forage varies in its nutritional value by species, time of year, and other factors. On rangeland, cattle consume a varied diet that may include grasses, legumes, forbs, and brush (browse). Frequently, range forage may not provide sufficient feed or variable feed quality for cattle. This can lead to periods of under-nutrition and slower growth. This is a problem in younger cattle. At such times, owners must supplement feed or move the cattle to another location where feed is available. Forage comes from both publicly and privately owned lands.

Livestock grazing occurs on land subject to private and public permits. For example, in 1998, it was estimated that over two million head of livestock grazed on National Forest land (1,262,000 cattle, horses, and burros; 966,221 sheep and goats) (U.S. Forest Service, 1998). In California, the number of farms using grazing permits between 1987 and 1997 increased among all permit types. More farms use U.S. Forest Service permits than any other permit type. Farms within the range livestock industry hold the majority of grazing permits and have increased use of permits. In 1997, beef cattle farms greater than 2000 acres held the majority of U.S. Forest Service, Taylor, and Indian land grazing permits (National Agricultural Statistics Service, 2001a).

Regionally, farms within the range livestock industry mirror California's grazing permit increases among all permit types between 1987 and 1997. The North Interior region held nearly a third of the beef cattle farms excluding feedlots using grazing permits in 1997. All other beef cattle farms excluding

feedlots that used grazing permits were spread fairly evenly across the remaining regions (National Agricultural Statistics Service, 2001a).

Of the 5.8 million acres being grazed under permit in 1997, the North Interior region accounted for nearly 22 percent of total acres. Also in 1997, of the regions with data, the North Interior accounted for more land permits of all types than any other region. The South San Joaquin Valley and South Coast/Mojave/Colorado Desert regions also heavily used grazing permits. In 1997, the North and South Bay, North Coast, and Eastside regions held small amounts of acres being grazed by permit (National Agricultural Statistics Service, 2001a). For more information, see Characteristics of the California Range Livestock Industry.

The worth of range forage can be measured in grazing fees or rents charged for use of rangeland for forage. Figure 25 shows grazing fee rates in California for cattle. These come from survey indications of monthly lease rates for private, non-irrigated grazing land from the January 2000 Agricultural Survey conducted by the USDA National Agricultural Statistics Service. An animal unit month (AUM) is the quantity of forage necessary to feed one cow and her calf, one horse, five sheep, or five goats for one month.

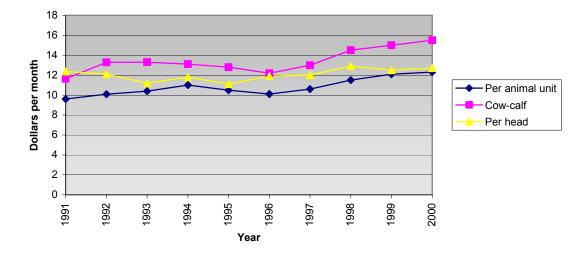


Figure 25. Annual average grazing fee rates (dollars per month), 1991-2000

Source: National Agricultural Statistics Service, 2001a

California land rents for grazing show considerable variation by county. They are summarized in Table 11 for the year 2000 for different areas.

Table 11. Land grazing rents by county, 2000

County	Description	Rent range	Activity and trend in 2000
Colusa, Glenn, Butte, and Tehama counties	Rangeland	\$8 to \$15	Slightly increasing
Lassen, Modoc, Shasta, and Siskiyou counties	Irrigated pasture/meadow	\$12 to \$20/AUM	Increasing
	Rangeland	\$10 to \$15/AUM	Stable
	Dry pasture	\$10 to \$15/AUM	Stable
	Cattle ranches		
	Inside operation (0-15% public)*	\$80 to \$120/AU	Stable
	Range operation (>15% public)**	\$80 to \$100/AU	Stable
Merced County	Rangeland	\$12 to \$22	Stable/stable
Stanislaus County	Rangeland	\$15 to \$30	Stable/stable
San Joaquin County	Rangeland	\$10 to \$25	Stable/stable
Fresno County	Rangeland (West)	\$2 to \$8	Moderate/stable
	Rangeland (East)	\$4 to \$15	Moderate/stable
Madera County	Rangeland	\$6 to \$15	Limited/stable
	Dry Pasture	\$12 to \$16	Limited/stable
Kern County	Rangeland (West)	\$3 to \$7	Steady/stable
	Rangeland (East)	\$8 to \$14	Steady/stable
Tulare County	Rangeland	\$10 to \$15	Steady/stable
Kings County	Rangeland (West)	\$2 to \$7	Steady/stable
Monterey County	Rangeland	\$6 to \$12	Strong/stable
San Luis Obispo County	Coastal rangeland	\$7 to \$15	Strong/increasing
	Inland rangeland	\$5 to \$8	Stable/stable
Santa Barbara County	Rangeland	\$6 to \$15	Stable/increasing

^{*15} percent or less included within the sale was BLM leased land
** Greater than 15 percent included within the sale was BLM leased land

Source: American Society of Farm Managers and Rural Appraisers, 2000

Forage is also available from federal lands. This comes in the form of animal unit months provided largely by the U.S. Bureau of Land Management and the U.S. Forest Service. The grazing fee for western public lands administered by these two agencies is set by a formula determined under the 1978 Public Rangelands Improvement Act (PRIA) and continued under a Presidential Executive Order issued in 1986. The annually adjusted grazing fee is calculated by using a 1966 base value of \$1.23 per AUM for livestock grazing on public lands in western states. The figure is adjusted according to three factors: current private grazing land lease rates, beef cattle prices, and the cost of livestock production. The grazing fee in 1999 and 2000 was \$1.35 per AUM.

In addition, ranchers that rely on federal grazing leases have been affected with significant changes in federal grazing policies. Both the Forest Service and the Bureau of Land Management have adopted policies focusing on improving rangeland health. Both agencies have strengthened requirements for protecting rangeland health in making their allotments.

Grazing fees on federal lands: The U.S. Forest Service has charged fees for grazing private lands since 1906 and the Bureau of Land Management since 1936. The Public Rangelands Improvement Act of 1978 (PRIA) sets a fee charged for grazing on 16 western states including California. See Grazing Fees: An Overview.

During the Clinton Administration, the Secretary of Interior revised BLM grazing regulations. These were challenged in court. In May of 2000, the U.S. Supreme Court upheld the authority of the Secretary of Interior to establish new regulations on federal land leases. This includes a regulation that specifies that grazing permits can be held by persons or groups who are not in the livestock business and that the U.S. government owns all "improvements" made to leased lands by the permittees including fences and wells.

Feed costs

Both hay and alfalfa production and prices in California have been upward for many decades with feed prices over the last decade tending to reduce profits to producers in Western states including California (Morgan Consulting Company, 2002). For 2000 and 2001, drought conditions in these states have increased hay prices to very high levels. See U.S. Drought Areas Help Push Hay Prices to Record Levels. In 2000, California experienced its lowest net availability of alfalfa, which led to the highest imports to date. However, some relief is expected for 2002 where record hay production is anticipated for several states including California (Cothern, 2000). See Wheat and Feed Grains Outlook.

California's hay, silage, field, and seeds industry: In 1997, the production of California's hay, silage, field, and seeds industry exceeded \$800 million (Table 12). A small portion of hay and silage comes from farms with cattle, sheep, and goats but most comes from farms devoted to grain and seed products.

Table 12. Value of hay, silage, field, and seeds (thousand dollars)

	All farms	Farms without cattle, sheep, or goats
California	816,502	660,393
Significant regions		
Central and North Central Sierra	225,981	165,601
Sacramento Valley/North Sierra	82,228	69,802
South San Joaquin Valley	192,130	169,292

Source: National Agricultural Statistics Service, 2001a

Feed additives for the livestock industry have been used in the United States for more than three decades. Antibiotics may be used to give protection from disease. These feed additives aid in reducing digestive disturbances that may result from feeding high energy feeds to cattle. Antibiotics used in cattle feed can increase weight gain and biological efficiency of the animal. The Food and Drug Administration (FDA) regulates the type and amount of antibiotics fed to cattle. Feed costs can be significant to U.S. cattle producers. Feed and mixed feed additives represented at least 20 percent of the costs to beef cattle producers outside of feedlots in 1997.

Other production factors

The cost of energy and energy-based materials has increased from the relative lows of previous years. For many ranchers this is most reflected in the cost of gasoline or related products. Where ranchers require water, the price of water varies and will relate both to quantity and related legal/regulatory factors. The prices paid by U.S. farmers over the last six years for production expenses, fertilizers, and fuel is shown in Figure 26. These trends are probably mirrored in ranching costs.

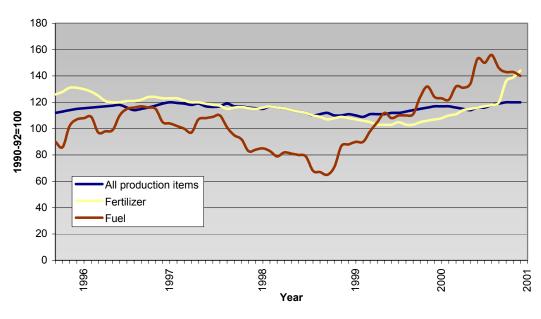


Figure 26. Index of prices paid by U.S. farmers for fertilizers, fuel, and production expenses, monthly, 1996-2001

Source: Sumner, 2001

Production losses

Losses to livestock owners occur from a number of sources. They can occur from disease, predators, digestive problems, respiratory problems, calving or lambing problems, weather, poison, theft, and other factors. Two prominent concerns of the livestock industry are losses due to health and disease, and predators.

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Health and disease factors in sheep

U.S. sheep producers are concerned about a number of health conditions including stomach/intestinal worms, mastitis (inflammation of the udder), footrot, vitamin E/selenium deficiency, and pregnancy disease. Concerns about mastitis are common but other concerns vary by region. West coast producers are especially concerned about liver flukes (parasites in the liver) (Animal and Plant Health Inspection Service, 1996).

Scrapie: to date, California is spared of a nasty sheep disease. There are a number of diseases that affect sheep. One of the most serious is scrapie, which is part of a family of diseases that attacks the central nervous system of animals. Scrapie has had a significant impact on the sheep industry and has caused financial losses to sheep producers across the country. See Report of the U.S. Animal Health Association Committee on Sheep and Goats. The disease is addressed by the Animal and Plant Health Inspection Service (APHIS) by (1) a regulatory program intended to prevent the interstate movement of scrapie positive and high-risk animals and (2) the Voluntary Scrapie Flock Certification Program designed to identify scrapie-free and reduced-risk animals. See Animal and Plant Health Inspection Services Scrapie Program. To date, California is free of scrapie.

Health and disease factors in cattle

In California, the mortality rate for cattle ranged from one to three percent. A significant proportion comes from health and disease related causes.

Disease in cattle may occur for a variety of reasons including cattle susceptibility, presence of a disease vector, and the environment.

Concerns over two diseases have dominated the U.S. and international arena: foot-and-mouth disease and mad cow disease. It would shut down beef, dairy, sheep, and swine operations and prevent movement of animals to pasture or shipping animals to other states.

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Foot-and-mouth disease is a highly contagious viral disease that affects cloven-hoofed animals such as cattle, sheep, and pigs. Currently, no foot-and-mouth disease exists in the United States. There have been no outbreaks of foot-and-mouth disease in California since 1929. However, the potential impact of the disease in California is very significant. It could shut down beef, dairy, sheep, and swine operations. It would also prevent movement of animals to pasture or shipping animals to other states. This would be very significant since ranchers, livestock auctions, feedlots, packers, and others move cattle to and from other states such as Oregon, Texas, Nevada, Montana, Idaho, and the Midwest.

Foot-and mouth disease: Animals may get the disease through contact with infected animals or with objects that have been contaminated by body fluids or wastes from infected animals. People, pets, birds, rats, or even the wind may spread the virus. In animals, fever is followed by the development of blisters mainly in the mouth or on the feet. The disease is rarely fatal except in very young animals. There are several types of foot-and-mouth disease. Vaccines are used in many countries but no one vaccine is effective against all types.

A major recent outbreak started in Great Britain where over a half million head have been destroyed. The disease has spread to several other European countries. The disease exists in Africa, Asia, and South America including several significant beef producers such as Argentina.

In some cases, the disease is endemic. In these cases, the primary control mechanism is the use of periodic vaccinations. Most vaccines protect the animals for only a short period of time, are costly, and occasionally may contain live viruses that could infect animals. In the United States, Australia, and most other countries where the disease is not endemic, the main control strategies are import restrictions and quarantine procedures to prevent introduction of the disease.

Mad cow disease (bovine spongiform encephalopathy, BSE) is a brain wasting disease. Australia, the United States, Canada, and a host of other nations have banned all imports of livestock and meat and dairy products from the European Union. Within the United States, federal regulations were passed that intend to keep beef clear of mad cow disease so that if BSE ever reached this country, it would not spread. It wasn't until the McDonald's Corporation, the nation's largest buyer of beef, told its packers that after April 1, 2001, it would not purchase cattle unless they have been fed in accordance with federal rules aimed at keeping beef clear of mad cow disease, that the industry began to follow the federal regulations. In turn, meat packing officials and livestock marketing firms require documentation from cattle producers.

In December of 2003 a single cow with BSE was discovered in Washington state. This case has prompted the USDA to implement more safeguards to further protect public health and include the following. Banning of downer cattle from the human food chain; product holding, where cows are no longer marked as "inspected and passed" until confirmation is received that the cattle have, if fact, tested negative for BSE; specified risk material, enhancement of existing regulations by declaring more parts of carcasses as specified risk and thus eliminating them from the human food supply; advanced meat recovery, adds to the list of parts where this technology must be used to remove muscle tissue from the bone of beef carcasses; all air injection stunning has been banned; the use of mechanically separated meat in human food has been prohibited (USDA, 2004).

BSE: Mad cow disease is linked to a new variation of Creutzfeldt-Jakob disease that caused about 80 human deaths in Britain and elsewhere in Europe since the mid-1990s. There are different theories about the origin of BSE. However, experience in Britain indicates that recycling of infected cattle material, such as in feed and supplements to other cattle has helped to spread and sustain the disease. Hence, control strategies aim at destruction of BSE infected cattle herds, eliminating use or import of feed made from cattle ruminants, and stopping the transmission of the disease between and within species.

European consumers started to avoid beef for fear that humans can contract brain disease from eating BSE infected meat. This caused severe economic impact to Europe's cattle industry and led a number of European countries to import non-European cattle or cattle related products such as bone meal. In Germany, for example, beef consumption declined 60 percent when BSE was found in the country's cattle in November of 2000. In light of the current BSE crisis many Europeans have turned to other kinds of meat (NewsMax.com, 2001).

Production losses to predators

In California, losses to predators are significant but are less than non-predator causes such as disease. Common predators are the fox, coyote, and mountain lion. Domestic dogs may also kill livestock. A dog or pack of dogs can do different damage to a cow or sheep than a coyote, a black vulture, a wolf, or a cougar (Animal and Plant Health Inspection Service, 1997).

Livestock predator losses in the United States: Cattle and calf losses from animal predators in the United States outside Alaska totaled 147,000 head during 2000. This resulted in a loss to farmers and ranchers of \$51.6 million. Coyotes caused almost 65 percent of the mortality. Sheep and lamb losses from animal predators in the United States totaled 273,000 during 1999. This was about 37 percent of total non-natural losses and resulted in a loss of \$16.5 million to farmers and ranchers. Coyotes caused just over 60 percent of the total predator damage to sheep and lamb losses (National Agricultural Statistics Service, 2001c).

Within California, the most significant natural predator to sheep and cattle is the coyote. As shown in Tables 13-15, coyotes were responsible for a majority of predator damage to cattle, calves, sheep, and lambs in both 1995 and 2000. Mountain lions and bobcats are also significant predators. In fact, in 2000 California had more cattle (900 of 3000 U.S. total) and calves (2400 of 8000 U.S. total) killed by these predators than any other state (National Agricultural Statistics Service, 2001c).

Table 13. Cattle losses by predator, 1995 and 2000

	1995				2000				
Predators	Cows (head)	Contribution to total cow predation loss (percent)	Calves (head)	Contribution to total calf predation loss (percent)	Cows (head)	Contribution to total cow predation loss (percent)	Calves (head)	Contribution to total calf predation loss (percent)	
Coyotes	500	33	1,900	46	900	37	8,100	64	
Dogs	200	13	700	17	400	17	1,500	12	
Mountain lions/bobcats	300	20	1,200	29	900	38	2,400	19	
All other predators	500	33	300	29	200	8	500	4	
Total Predation Loss	1,500	100	4,100	100	2,400	100	12,500	100	

Source: National Agricultural Statistics Service, 2001c

Table 14. Sheep and lamb losses by predator, 1994 and 1999

	1994					1999			
Predators	Sheep (head)	Percentage of total sheep loss due to predation	Lamb (head)	Percentage of total lamb loss due to predation	Sheep (head)	Percentage of total sheep loss due to predation	Lamb (head)	Percentage of total lamb loss due to predation	
Coyotes	5,750	61	10,800	72	5,000	N/A	6,500	N/A	
Mountain lions	2,275	24	1,850	12	600	N/A	700	N/A	
Dogs	925	10	1,625	11	3,000	N/A	1,000	N/A	
Bears	275	3	325	5 2	N/A	N/A	N/A	N/A	
Eagles	0	0	125	1	N/A	N/A	N/A	N/A	
Other	125	1%	175	1	200	N/A	200	N/A	
Total predation loss	9,350	100	14,900	100	N/A	N/A	N/A	N/A	

Source: National Agricultural Statistics Service, 2001c

Table 15. Cattle and sheep production value losses due to predation, Statewide and U.S., 1995 and 2000

	Cattle (\$1000)		Calves (\$1000)		Sheep (\$1000)		Lambs (\$1000)	
Type of cattle and sheep loss	1995	2000	1995	2000	1994	1999	1994	1999
Value of U.S. predation loss	13,053	13,524	26,510	38,113	7,606	16,502	10,110	Inc in sheep
Value of California predation loss	1,235	1,558	1,025	3,488	794	936	587	387

Source: National Agricultural Statistics Service, 2000, 2001c

Controversy in the control of predators: In recent years, there has been much discussion about the use of lethal methods to hunt or trap animals, including predators. See USDA Wildlife Services Protects Livestock. Control of predators in California, especially the mountain lion, has sparked vigorous debate since the turn of the century. Bounties were offered for the killing of certain predators. For example, between 1916 and 1971, more than 12,000 mountain lions were killed for bounties and for sport in California (Sierra Club, 1995). By 1968, estimated mountain lion populations dropped to about 600 resulting in a 1971 moratorium on hunting. This moratorium was made final with the passage in 1990 of Proposition 117 that banned all trophy hunting of mountain lions. The only exception being Department of Fish and Game staff may kill lions that become a threat to public safety and welfare. The issue was revisited in 1996 when voters rejected Proposition 197 that would have repealed the earlier 1990 proposition.

In addition, voters passed Proposition 4 in 1998, which banned leg-hold traps and the use of sodium fluoroacetate and sodium cyanide. Both of these chemicals were utilized in control of coyotes. Sodium fluoroacetate used in livestock collars in particular was very effective in selectively removing sheep-killing coyotes in California (Timm and Connoly, 2001). The ban on leg-hold traps and use of the poisons has made it much more difficult to control coyotes, and no new approaches have been developed to take their place. Without control, research has shown that coyote populations expand and that losses to livestock producers will increase.

Ranchers and governmental agencies use both lethal and non-lethal methods to control livestock predators. Lethal methods include aerial hunting, neck snares, poison capsules, and traps. Non-lethal methods include use of fencing, llamas, guard dogs, and herders (Table 16). Pressure to use non-lethal methods has grown because of sentiment against killing of animals, more limits on the use of chemical control compounds, and more restrictive requirements associated with keeping chemical registrations current. See National Wildlife Research Center. According to recent statistics, the non-lethal methods used in California between 1996 and 2000 included such things as guard animals and fencing. However, critics of lethal methods have reported that most livestock predators in the United States and California are killed. During 1991-1994, between 6,000 and 8,000 predators were killed each year in California.

Table 16. Non-lethal control of animal predators

Cattle and calves	- 2000	Sheep and lambs -1999		
Method	Landowners using (%)	Method	Landowners using (%)	
Guard animals	20	Guard dogs	22	
Exclusion fencing	48	Fencing	69	
Herding	11	Herding	8	
Night penning	14	Night penning	54	
Fright tactics	8	Fright tactics	7	
Livestock carcass removal	46	Llamas	12	
Other non-lethal methods	12	Donkeys	5	
		Lamb shed	56	
		Other non-lethal methods	12	

Source: National Agricultural Statistics Service, 2000

Public ownership of wildlife: Under the U.S. Constitution, wildlife is publicly owned. Hence, predator control research and programs have emerged as cooperative efforts between public agencies and private landowners. The largest U.S. program is the Animal Damage Control Program (ADC) under the USDA. In 1999, its budget was just over \$27 million. The program is a joint private, state, and federally funded program designed to address issues that come from wildlife damage to agricultural, urban and natural resources, or when they threaten public health and safety.

In addition, the U.S. Fish and Wildlife Service (FWS) provides support in controlling wildlife damage. It is estimated that in California and the other western states about 75 percent of the cooperative agreements the FWS has are with small farmers and ranchers. In the 1999 fiscal year, more than 60 percent of the funding for FWS operational programs came from cooperator dollars provided by state, county, or local governments, private organizations, or individuals who benefited from the service. At the request of federal and state agencies, FWS relocates or removes black bears, mountain lions, and coyotes from campgrounds and other public areas where they pose a threat to human safety. The FWS also performs research that is relevant to California such as predator management, improving rodent damage control, and wildlife spread of rabies and bovine tuberculosis. See USDA Resolves Wildlife Conflicts in California.

Regulations and farm policies

Operating in an increasingly urban state, California agriculture faces more public concerns over food safety, health, pesticide use, clean water, clean air, groundwater contamination and replacement, open space, worker safety, and ecosystem and wildlife preservation. This makes the agricultural sector in California perhaps the most stringently regulated in the United States (Coppock, 1996).

Examples of State and federal agencies with jurisdiction over rangelands that can affect product mix or land use decisions are listed in Table 17.

Table 17. Federal and State agencies with jurisdiction over rangelands

Federal agencies with jurisdiction	Areas of influence
U.S. Fish and Wildlife Service	Species, habitat impacts
Department of Agriculture – USFS and various farm agencies	Food safety, pests, product mix, economic support programs
Environmental Protection Agency	Air, water, pesticides, toxics
Bureau of Reclamation	Water allocations
National Marine Fisheries Service	Anadramous fish

California agencies with jurisdiction	Areas of influence
Department of Fish and Game	Species, habitat impacts
Department of Forestry and Fire Protection	Fire protection, timber harvesting
Department of Food and Agriculture	Pest control, food safety
Department of Health Services	Public health
Air resource boards	Air quality, land management choices
State Water Resources Control Board	Water quality
Department of Pesticide Regulation	Pesticides

Where range management in California takes a state license: By law, a license by the State is required for professional management activities on forested landscapes. This includes hardwood rangelands and mountain meadows associated with conifer forests. In this context, range management activities requiring a license include providing management recommendations and preparing conservation and management plans that cover the range component of forested areas. A license is not required for management activities on native or cultivated grasslands, croplands, or shrublands without trees. In conjunction with the Society for Range Management, California has also developed a program to provide this professional license through the State Board of Forestry. See California Certified Rangeland Manager Program.

Market factors

For several reasons, there is only limited beef processing capacity within California. Meat packers have located in other states that have lower feeding, production, and processing costs. This is significant because a large share of the current production, especially in the north, central, and coastal parts of California, goes to young cattle sold for fattening and processing out-of-state. Long distance shipping costs add to producer costs in California and reduce profitability (Anderson et al., 2002).

There has been substantial concern among cattlemen nationally that packer concentration and various supply and marketing arrangements do not use the open market. Packers themselves process animals from their own feedlots or arrange with producers where prices of animals are set in advance according to formula. Evidence suggests that these practices can lower the regional prices paid for cattle to producers (Ward, 2002).

To some degree, packer consolidation and lack of facilities has limited the marketing opportunities for the small and mid-sized family rancher in California (Levi et al., [ND]). A recent survey, however, found that a sample of ranches with small operations were not selling significant shares directly to packers (Anderson et al., 2002). Hence, they avoided the impact of market agreements or other mechanisms that may reduce price. The same survey did indicate that many firms could count on only between three to five potential buyers for cattle in any set selling environment; to many economists this small number of potential buyers for a product signals a concern over buyer market power (Anderson et al., 2002).

CHAPTER 6. SOCIO-ECONOMIC Range Livestock Industry Production Factors and Constraints OCTOBER 2003

Private or cattle association auction yards continue to make up a key marketing outlet for cattle in California (Anderson et al., 2002). These yards require a substantial volume of sales to sustain themselves and would be very sensitive to ranchers going out of production. This could further limit options of small scale producers.